UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1201 ELM STREET, SUITE 500
DALLAS, TEXAS 75270

08/27/2019

MEMORANDUM

SUBJECT: Request for Approval of an Emergency Removal Action and Emergency Exemption to the $2 Million and 12 month Statutory Limitation at the Goodrich Asbestos Site, Miami, Ottawa County, Oklahoma.

FROM: Mike McAteer, On-Scene Coordinator
Readiness and Emergency Response Team

THRU: Craig Carroll, Chief
Emergency Management Branch

TO: Wren Stenger, Director
Superfund and Emergency Management Division

I. PURPOSE

This memorandum documents the approval for an Emergency Removal Action and approval for an emergency exemption to the $2 million and 12 month statutory limitation pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, 42 U.S.C. §§9601 et seq., at the Goodrich Asbestos Site (Site) located in Miami, Oklahoma. Verbal approval for this response action was provided by Carl Edlund, Director, Superfund and Emergency Management Division, on May 2, 2019. The action includes the excavation and off-site disposal of approximately 18,000 tons of asbestos-contaminated debris located in demolition debris piles scattered across the Site as well as from the wet-demolition of two unstable structures on the Site. This Site involves nationally significant or precedent setting issues, as this removal concerns asbestos.

This action meets the criteria for initiating a removal action under the National Contingency Plan (NCP), 40 CFR §300.415. This action, in addition to emergency removal work that took place over the last six months at the Site will require more than 12 months to complete. The conditions at the Site pose a threat to public health, welfare and the environment.

II. SITE CONDITIONS AND BACKGROUND

SEMS #: OKN000605314
Category of Response: Emergency Removal
Site ID #: A6MK
Latitude: 36.8891796 Longitude: -94. 8892537

100017126

A. Site Description

The Site is a former B.F. Goodrich tire plant in Miami, Ottawa County, Oklahoma. The plant ceased operations in 1986 and the property was later divided into three large parcels and sold to different owners. Due to the presence of asbestos in multiple structures on the Site, abatement and removal of the asbestos was required by the Oklahoma Department of Environmental Quality (ODEQ) and the Oklahoma Department of Labor (ODOL). Some initial attempts to abate/remove the asbestos were conducted by the current owner, however, cleanup work ceased in late 2014. The Site has been abandoned since 2014 and has been broken into numerous times. In October of 2018, the ODEQ contacted the Environmental Protection Agency (EPA) Region 6, requesting assistance with securing the abandoned facility to prevent unauthorized access. The ODEQ also requested that the EPA conduct a removal assessment of the entire property related to asbestos contamination.

1. Removal Site Evaluation

Removal assessment sampling activities were conducted to confirm the presence of asbestos associated with the demolition debris piles as well as inside the Powerhouse Building and other structures remaining on Site.

The ODEQ requested assistance from the EPA in securing access to the facility. Vandals have routinely cut holes in the perimeter fence to gain access to the property and have also removed doors/windows, including boarded up doors and windows, to gain access to the Powerhouse Building and other structures on Site. The EPA responded on four separate occasions from November 2018 to February 2019 by repairing holes in the perimeter fence and re-boarding doors and windows to the Powerhouse Building and Autoclave basement.

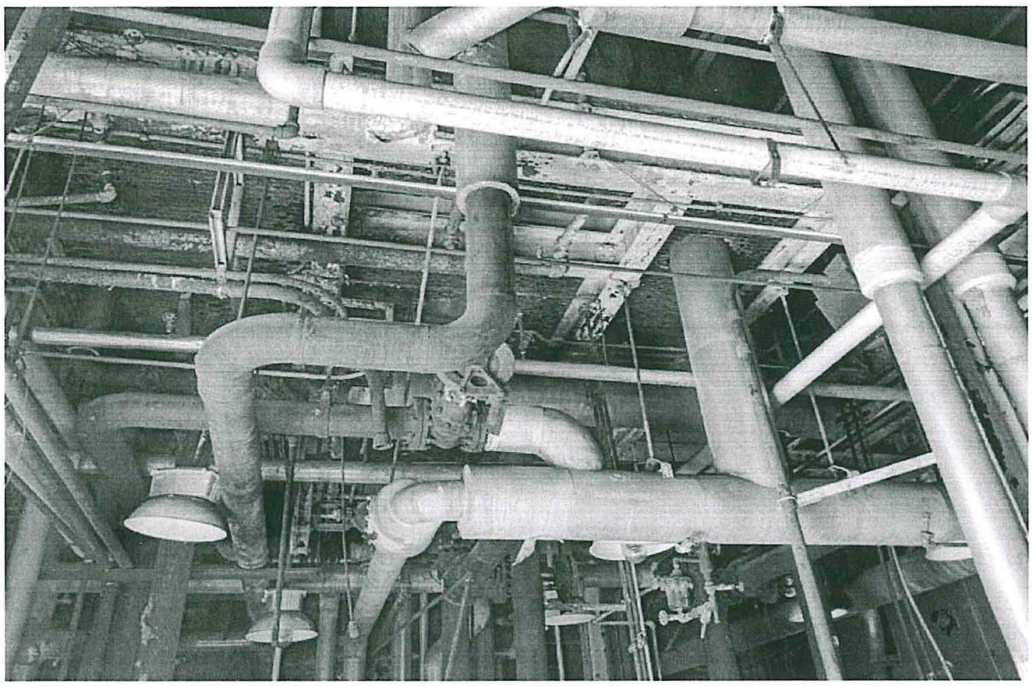
The ODEQ had collected a limited number of samples from some of the debris piles in early October 2018 and determined that varying levels of friable and non-friable asbestos were contained in some piles. The ODEQ requested that the EPA conduct a more detailed removal assessment to confirm the presence of asbestos across the entire site. The EPA conducted a removal assessment the week of November 12, 2018.

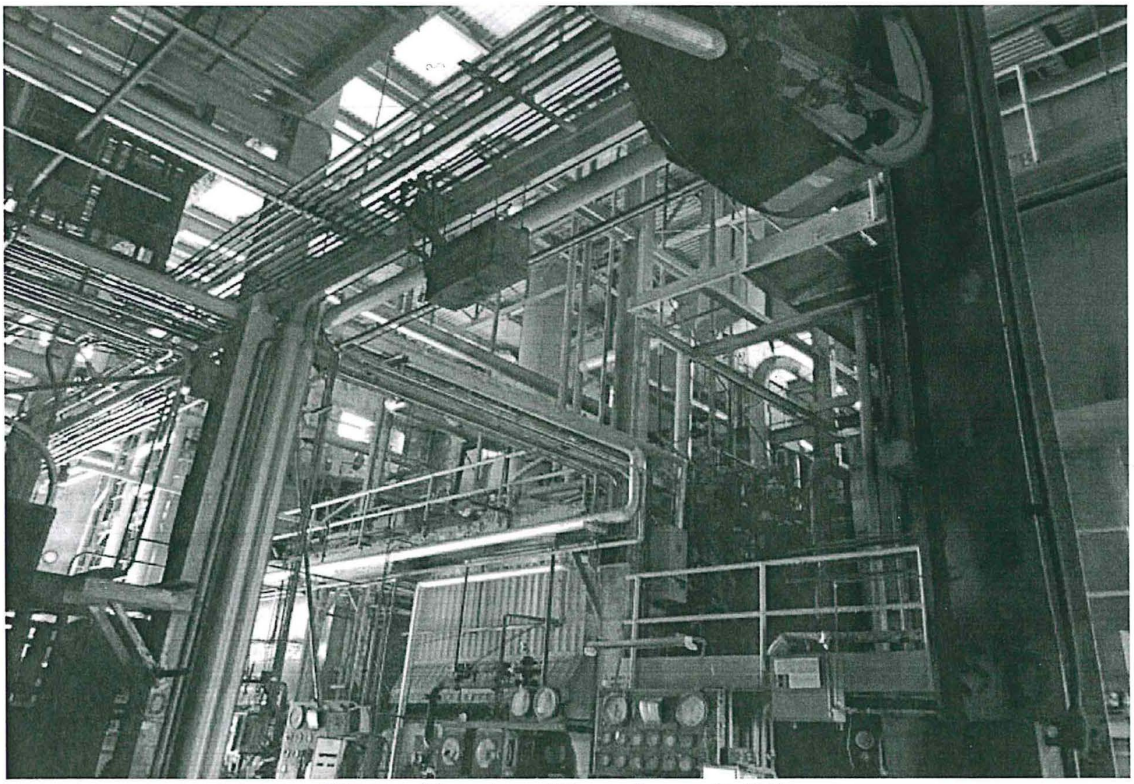
The results of the assessment showed the following:

- Debris piles: Of the 19 piles sampled, all but one of the piles showed elevated levels of friable and non-friable asbestos, typically damaged transite. The levels of asbestos in the debris ranged from trace up to 40%.
- Powerhouse Building: A full asbestos survey of the building was conducted, and the results show there are approximately 4,875 linear feet of Asbestos Containing Material (ACM) piping as well as 16,817 square feet of ACM in insulation and equipment components. Levels of asbestos ranged from trace to 80%.
- Oven Building: Samples from various ACM-suspected pieces of equipment and structures in this building show friable and non-friable asbestos at levels ranging from 25% to 70%.
- Brick Office Building: Samples from various ACM-suspected pieces of the structure in this building show friable and non-friable asbestos at levels ranging from 2% to 60%.
- Soil: Twenty grids were sampled directly north of the former plant structure. All samples were non-detect for asbestos, with the exception one trace level of chrysotile.

View of a demolition debris pile with Powerhouse Building in distance

View of Powerhouse Building exterior

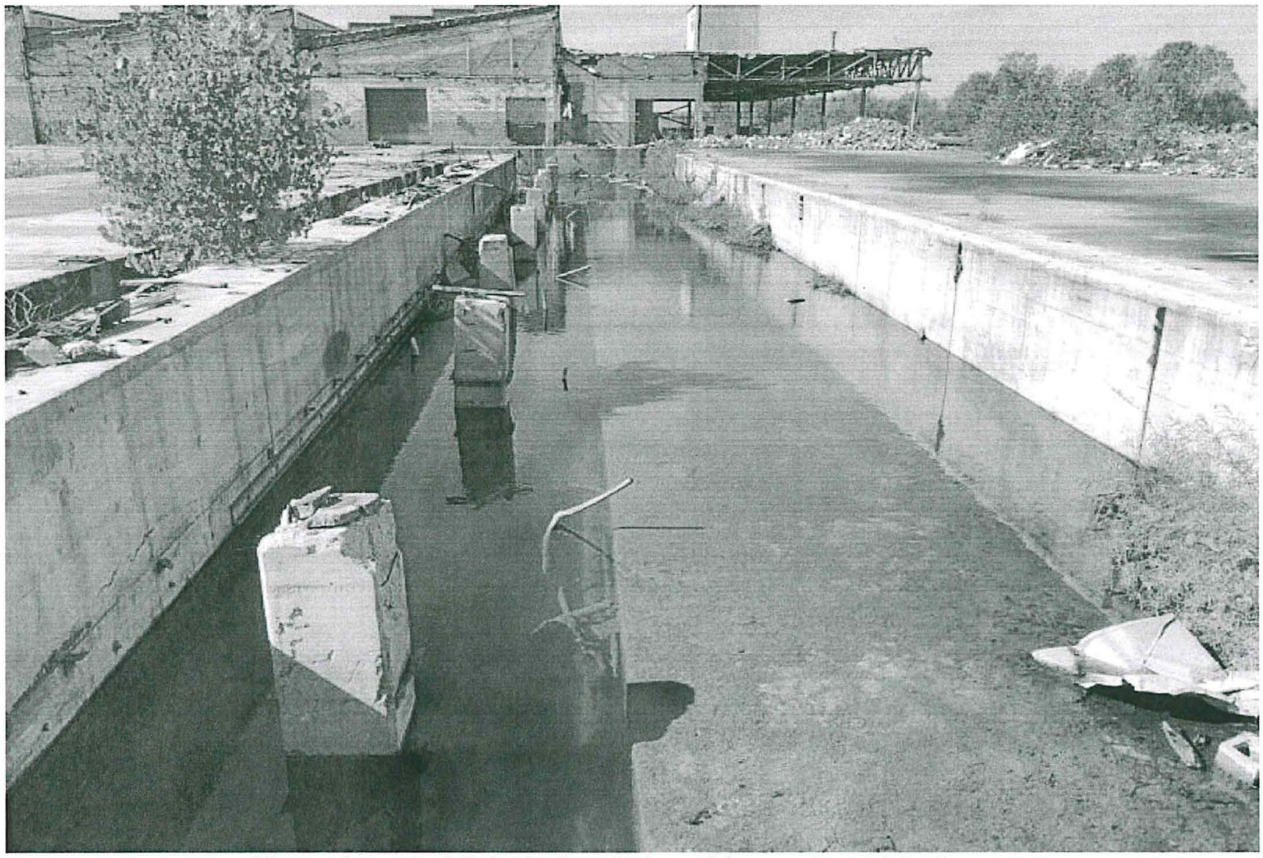




Views of Interior of Powerhouse Building

View of Oven Building

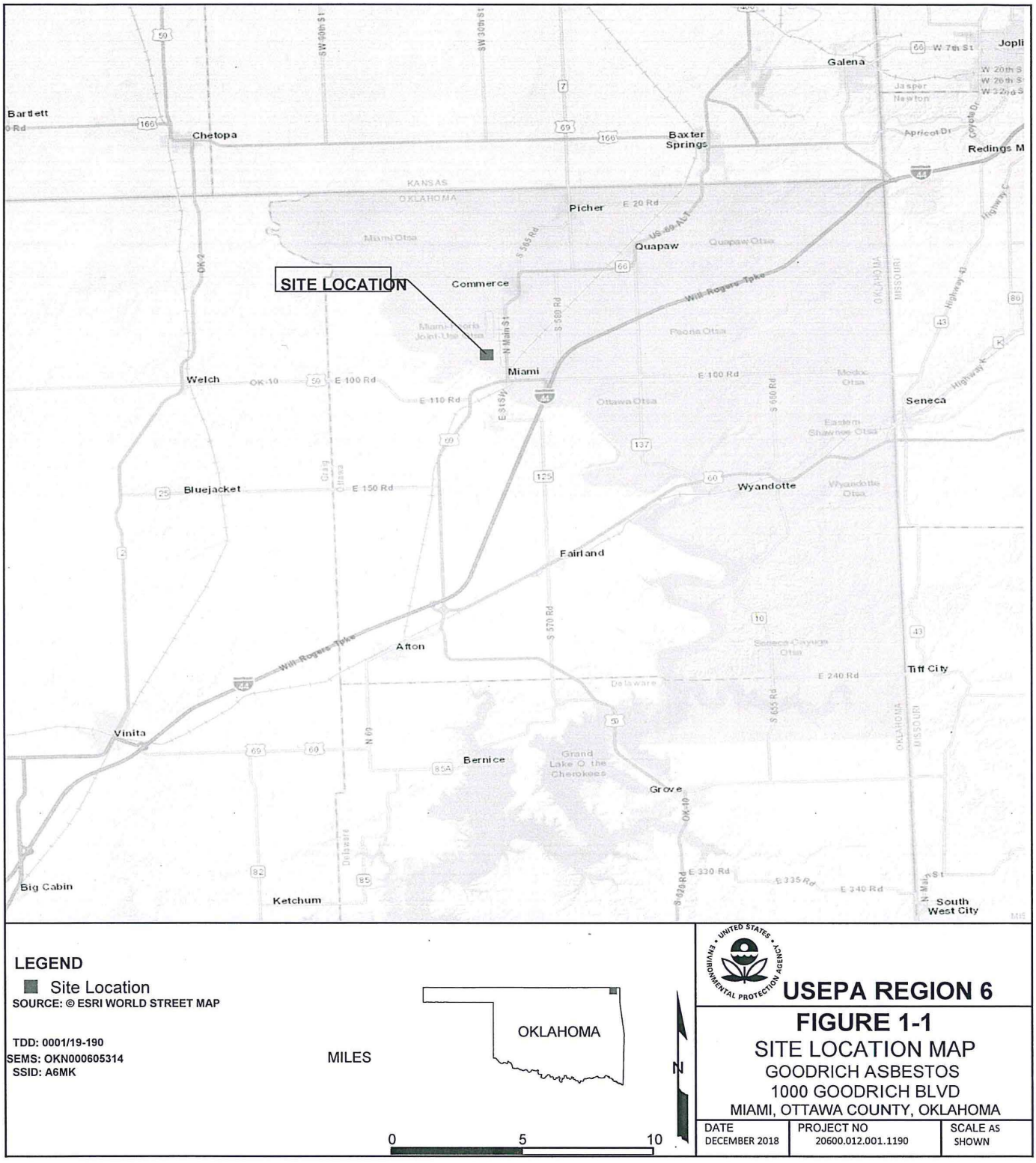
View of Brick Office Building



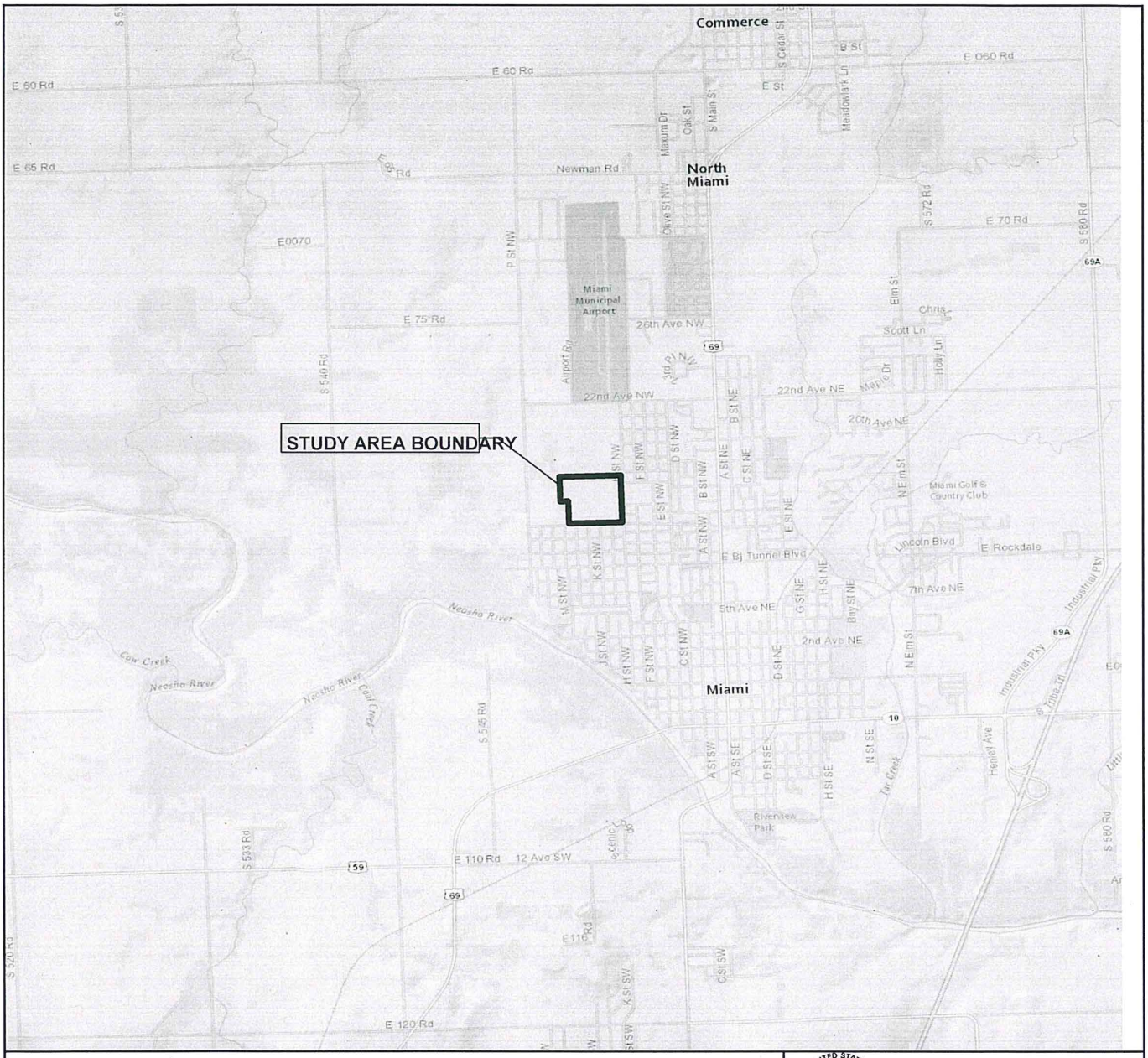
View of a typical "pit" in foundation of former Goodrich Plant

2. Physical Location

The physical address of the Goodrich Site is 1000 Goodrich Boulevard, Miami, Oklahoma. The Goodrich property is located on the west side of the city and the entire property occupies approximately 164 acres of land. It is bounded to the south by Goodrich Boulevard, to the east by H Street Northwest, to the west by P Street Northwest, and to the north by city-owned property used by the Miami Solid Waste Transfer Station and Recycle Center and several adjacent soccer fields.



Site location



LEGEND

Study Area Boundary

SOURCE: © NATIONAL GEOGRAPHIC TOPO; ESRI

TDD: 0001/19-190
SEMS: OKN000605314
SSID: A6MK

FEET

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0 4,000 8,000

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

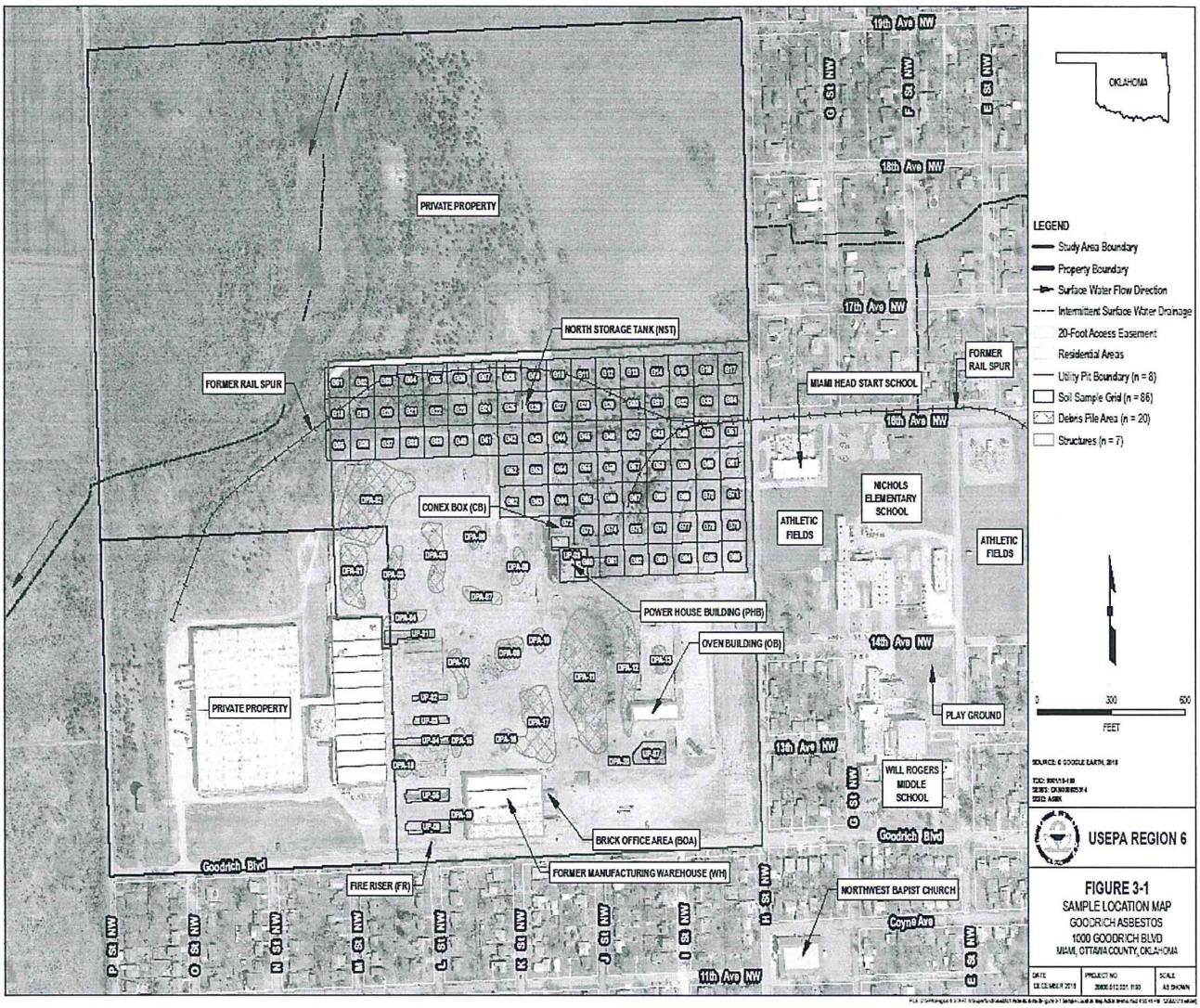
USEPA REGION 6

FIGURE 1-2

SITE AREA MAP
GOODRICH ASBESTOS
1000 GOODRICH BLVD
MIAMI, OTTAWA COUNTY, OKLAHOMA

DATE	PROJECT NO	SCALE AS
DECEMBER 2018	20600.012.001.1190	SHOWN

Site Location


PRIVATE PROPERTY
NORTH STORAGE TANK (NST)
FORMER RAIL SPUR
CONEX BOX (CB)
POWER HOUSE BUILDING (PHB)
OVEN BUILDING (OB)
BRICK OFFICE AREA (BOA)
FORMER MANUFACTURING WAREHOUSE (WH)
FIRE RISER (FR)
PRIVATE PROPERTY
MIAMI HEAD START SCHOOL
NICHOLS ELEMENTARY SCHOOL
ATHLETIC FIELDS
ATHLETIC FIELDS
PLAY GROUND
WILL ROGERS MIDDLE SCHOOL
NORTHWEST BAPIST CHURCH
19th Ave NW
18th Ave NW
17th Ave NW
16th Ave NW
14th Ave NW
13th Ave NW
11th Ave NW
Goodrich Blvd
Goodrich Blvd
Coyne Ave
OKLAHOMA
LEGEND
Study Area Boundary
Property Boundary
Surface Water Flow Direction
Intermittent Surface Water Drainage
20-Foot Access Easement
Residential Areas
Utility Pit Boundary (n = 8)
Soil Sample Grid (n = 86)
Debris Pile Area (n = 20)
Structures (n = 7)
0
300
600
FEET
USEPA REGION 6
FIGURE 3-1
SAMPLE LOCATION MAP
GOODRICH ASBESTOS
1000 GOODRICH BLVD
MIAMI, OTTAWA COUNTY, OKLAHOMA

3. Site Characteristics

The Goodrich plant was constructed in the mid-1940's and ceased operations in 1986. The plant was approximately 1.6 million square feet in size and sat on a 164-acre parcel of land on the west side of the City of Miami. The areas bordering the south and east sides of the facility are residential and include three schools directly east of the facility: Miami Head Start School, Nichols Elementary School and Will Rogers Middle School. The area west of the facility is a mix of woodlands and agricultural fields. The area directly north of the facility contains a small woodland-agricultural area as well as a waste transfer station/recycling facility with adjacent soccer fields (10 fields total). The population within one half mile radius of the Site's perimeter is 2,112. The population within a one-mile radius is 5,382.

After the plant shut down in 1986, the facility sat idle until approximately 2014; at that time the owner of the property, under consent agreements with the ODEQ and the City of Miami, demolished approximately 80% of the former structure. Removal of ACM was part of the agreements with the State and City. A large part of the remaining 20% of the structure was under lease agreements with two commercial operations who still operate on the property. These commercial operations are located on the western edge of the former Goodrich plant. Included in the remaining structures is the Powerhouse Building which is approximately 15,300 square feet in size. The Powerhouse Building has approximately 4,875 linear feet and 16,817 square feet of ACM still inside the structure. Most of the demolition debris, totaling approximately 15,600 cubic yards, from the 2014 demolition work still sits in piles scattered over the concrete foundation. With the exception of the two companies operating on the west side of the facility, the property is vacant. The southern, eastern, and part of the northern perimeter of the Site has a chain link fence. Most of the western side of the property and part of the northwest property line are not fenced, however, access from these sides of the property is limited given the dense vegetative growth. Vandals routinely cut holes in the fencing primarily on the northern and eastern perimeter. Access to the Powerhouse Building has also been made by trespassers by removing or damaging some of the doors.

4. Releases or threatened release into the environment of a hazardous substance, pollutant or contaminant

Asbestos is a hazardous substance as defined by 40.C.F.R. Section 302.4 of the NCP and Section 101 (14) of CERCLA, (42 U.S.C. Section 9601(14)). Assessment activities conducted at the Site in November 2018, showed large volumes of friable and non-friable asbestos material released to the environment. Following demolition of most of the former Goodrich facility, most of the demolition debris, which includes ACM, was left in piles scattered across the Site. Levels of asbestos in the piles range from trace levels up to 40%.

The Oven Building and the Brick Office Building contain extensive amounts of friable and non-friable asbestos. Both structures are structurally unsound, in particular, the Oven Building, which has partially collapsed and asbestos containing materials (i.e., transite wall board and asbestos-wrapped duct work) are already exposed to the outdoors. As both buildings continue to deteriorate asbestos will be released to the environment. Also, because trespassers are accessing the property, they are being exposed to the asbestos materials inside buildings and are salvaging materials from these buildings that may contain asbestos and taking these materials out into their homes and the community.

5. NPL Status:

The Site is not currently on the NPL.

6. Maps, Pictures and other graphic representations

Attachment 1 ATSDR Public Health Statement for Asbestos
Attachment 2 OSHA Fact Sheet on Asbestos

B. Other Actions to Date

In October of 2018, the ODEQ requested assistance from the EPA in securing the facility to prevent unauthorized access. Vandals have routinely cut holes in the perimeter fence to gain access to the property and have also removed doors/windows, including boarded up doors and windows, to gain access to the Powerhouse Building and other structures on Site. The EPA responded on four separate occasions from November 2018 to February 2019 by repairing holes in the perimeter fence and re-boarding doors and windows to the Powerhouse Building and Autoclave basement.

The week of November 12, 2018, at the request of the ODEQ, the EPA conducted a removal assessment of the entire Site. Results from that assessment are described in Section II.A.1 above.

C.. State and Local Authorities' Roles

1. State and Local Actions to Date

The ODEQ has been very involved with the former Goodrich facility over the last twenty years relating to both the asbestos contamination and a benzene plume in groundwater that emanates from the Site. The following is a summary of the ODEQ activities at the Site:

Asbestos

- 6/26/1996 ODEQ Order with Ottawa Management Company Incorporated (OMCI) - Mandatory Injunction on Loose Asbestos.
- 9/3/1997 ODEQ Order with OMCI.
- 5/10/1998 ODEQ Order modifying mandatory injunction with OMCI. Per the order OMCI agreed to in part:
    - Repair or remove and properly dispose of all loose or significantly damaged ACM within the Powerhouse and above the basement of the building. Within 4-years remove and lawfully dispose of all ACM from the interior of the Powerhouse.
    - Remove and lawfully dispose of all loose ACM (including soil) and Demolition Debris and remove and dispose of all Demolition Debris located outside.
    - Remove and properly dispose of all ACM located above the basement of the Autoclave Area.
    - Sample, analyze, drain and dispose of pit contents in the Warehouse Building.
    - Make it a condition of any transfer of ownership, all or partial, or of operations of the property, that the transferee must assume all of OMCI's obligations under this Order.
    - Grant reasonable access to the State for purposes of inspecting, verifying and sampling as the state deems necessary.

- 4/30/2015 ODEQ Administrative Order to George Blakeney d/b/a Real Estate Remediation, LLC a/k/a Blakeney Company, Inc. (current owner).
    - Within 15 days of receipt of the order Respondent shall begin hauling the regulated solid waste to a permitted disposal Site.
    - Dispose of all regulated material at a permitted disposal facility no later than June 1, 2015.
    - Separate all regulated material from non-regulated material into separate and distinct piles no later than 30 days from the execution of this Order.
    - Once the basements are filled with non-regulated material, encapsulate the top of the basements with at least eight inches of concrete and grade it to ground level within 30 days of filling the basements.
    - File a deed notice for areas where asbestos has been encapsulated within 30 days of fulfilling the requirements of this order.
    - Control fugitive dust and comply with ODOL regulations.
- 11/20/15 Emergency Order to George Blakeney d/b/a Real Estate Remediation, LLC a/k/a Blakeney Company, Inc.
    - Immediately wet or otherwise use a DEQ approved covering material on the Oven Building. Wetting shall occur daily until further notice from DEQ.
    - Do not remove, move, or attempt to clean up the Regulated Asbestos Containing Material (RACM) at the Oven Building in any manner without approval from DEQ.
    - Submit a demolition and cleanup plan to DEQ within forty-eight hours of receiving this Order.
    - *This Order was closed based on the advice the DEQ asbestos inspector who determined there was no RACM on the second floor of the Oven Building and no RACM was exposed to atmosphere. The Oven Building has since deteriorated and transite is breaking off the building and falling to the cement slab.*

Groundwater

- 10/9/1997 Order with Michelin North America, Inc. for remediation of wastes (specifically mineral spirits).
    - Set Site remediation goals for the benzene. DEQ agreed to a remedial goal of 500 PPB.
- 9/14/18 Amendment to the Settlement Agreement of March 25, 1998, between Oklahoma, City of Miami, and BFG (N.K.A Goodrich Corporation)

2. Potential for Continued State/Local Response

The ODEQ will assist in the asbestos related cleanup within the limits of its resources.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

A. Threats to Public Health or Welfare

Current Site conditions meet the following factors, which indicate that the Site is a threat to the public health, welfare, and the environment, and that a removal action is appropriate under Section 300.415(b) of the NCP, 40 C.F.R. § 300.415(b). Any or all of these factors may be present at a Site, yet any one factor may determine the appropriateness of a removal action under CERCLA authority.

1. Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants; NCP Section 300.415(b)(2)(i)

Asbestos has been released to the environment at this Site. Both friable and non-friable asbestos has been detected in 18 of the 19 demolition debris piles sitting on the Site. The estimates of asbestos containing materials is as follows:

- Demolition Debris Piles: 15,600 cubic yards
- Oven Building: 200 linear feet and 1,200 square feet
- Brick Office Building: 735 linear feet and 950 square feet

Access to these areas of contamination can be made from areas along parts of the Site's northern and western perimeter where no fencing exists. Trespassers have also cut multiple holes in the fence along other sides of the Site in order to gain access to the property. The Powerhouse Building has also been accessed by trespassers by removing doors and windows. The Oven Building and the Brick Office Building also contain extensive amounts of friable asbestos. Both of these structures are structurally unsound, in particular, the Oven Building which has partially collapsed. The nearest residents are located approximately 300 feet from the nearest debris pile and three schools are located less than 1,000 feet from the nearest debris pile.

The property is zoned commercial-industrial. The City has indicated to the EPA and the ODEQ that they are very much interested in putting the property back to commercial-industrial use and are in favor of a cleanup that makes this possible.

Airborne exposure to asbestos may occur through the release of asbestos fibers from the multiple debris piles and the deteriorating asbestos in the three remaining structures which are not sealed and are in a deteriorating condition. Asbestos fibers may be dispersed by the motion of routine Site activities such as walking or shoveling. Effects on the lungs are a major health concern from asbestos, as chronic (long-term) exposure to asbestos in humans via inhalation can result in a lung disease termed asbestosis. Many occupational studies have reported that exposure to asbestos via inhalation can cause lung cancer and mesothelioma (a rare cancer of the membranes lining the abdominal cavity and surrounding internal organs).

Sample results from the debris piles indicate the presence of high levels of friable and non-friable asbestos as well as in materials inside the three remaining structures. Analytical results of some of this material show concentrations of asbestos in the piles as high as 40% and as high as 80% in the structures. People accessing the property by means of trespassing or possible future commercial activity may release elevated levels of asbestos fibers into the air from these piles and structures resulting in a risk to the health of the exposed persons.

2. Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released; NCP Section 300.415 (b)(2)(v)

Miami, Oklahoma is located in a humid subtropical climate with cool, dry winters and hot, humid summers. The City averages 45 inches of rain per year. Ottawa County averages 53 thunderstorms per year and these storms are often severe and bring damaging straight-line winds, and torrential rains. Ottawa County is also located in what is commonly referred to as Tornado Alley. During the period from 1950 to 2003, 32 tornadoes were recorded in Ottawa County which is roughly one tornado every

other year. These weather conditions could cause further dispersion of asbestos contamination from the Site to neighboring residential areas, including three schools and several parks.

The predominant wind direction in Miami is from the south but varies based on seasons. The windiest time of year is from October to May, with March and April being the windiest months of the year. These winds can carry the asbestos to neighboring residences and businesses.

4. The availability of other appropriate federal or state response mechanisms to respond to the release; NCP Section 300.415(b)(2)(vii)

The EPA is working closely with the ODEQ and has shared all assessment data with the State. The EPA has also notified the ODEQ of the need to conduct an emergency removal action on the debris piles and two unstable structures to protect public health. The ODEQ is supportive of the EPA's plan to remove the contamination and has stated their willingness to assist with the removal within the limits of their resources.

IV. ENDANGERMENT DETERMINATION

Actual or threatened releases of hazardous substances from this Site, if not addressed by implementing the response action in this Action Memorandum, may present an imminent and substantial endangerment to the public health, welfare, or the environment.

V. EXEMPTION FROM STATUTORY LIMITS

A. Emergency exemption to 12-month and $2 million statutory limitations:

1. There is an immediate risk to public health or welfare or the environment.

There is an immediate risk to the public health via several pathways of exposure. Asbestos has been detected in demolished building materials left in piles and left open to the environment at the former Goodrich facility. Elevated levels of asbestos have also been detected in two onsite buildings which are in a state of collapse. Trespassers routinely gain access to the property, in part, to salvage scrap metal for resale. The City of Miami has indicated a desire to put this large piece of commercial property back into reuse once a cleanup is completed. Future workers and employees that would occupy this property may be exposed to the asbestos by way of routine commercial work activities such as walking or conducting routine maintenance.

Sample results indicate the presence of high levels of asbestos in debris piles exposed to the open environment as well as inside deteriorating and semi-open structures. Analytical results of the debris piles indicate the presence of friable and non-friable asbestos as high as 40%. Asbestos levels in materials inside the onSite structures are as high as 80%.

2. Continued response actions are immediately required to prevent, limit, or mitigate an emergency.

Administrative Orders for asbestos removal and abatement issued by the ODEQ to previous property owners were never completed. Asbestos containing materials are now in a state of continued deterioration and left open to the environment. This removal action will include the removal of asbestos contaminated materials from all debris piles and two unstable onsite structures that are being accessed

by the public as well as pose a risk to nearby school and residential populations from potential offsite movement of asbestos fibers.

3. Assistance will not otherwise be provided on a timely basis.

The State of Oklahoma has indicated that they would like the EPA to take the lead on addressing the asbestos contamination at this Site. The City of Miami has no ability to conduct a cleanup.

VI. ACTIONS AND ESTIMATED COSTS

A. Proposed Actions

1. Proposed Action Description

To mitigate the most immediate threat to the public health posed by the asbestos present at the Site, the proposed removal actions are outlined below. This work, Phase 1, will only relate to the debris piles and the two unstable structures (Oven Building and Brick Office Building). A second phase of work will be conducted at a later date and will involve the abatement of asbestos in the Powerhouse Building as well as abatement or encapsulation of asbestos in the pits and basements scattered across the Site. The first phase of removal work will involve the following:

a. Continue to assess and characterize threats posed by the Site.

b. Continue to implement security measures such as fencing, gates, locks, cameras, and/or guards to limit access to the areas of contamination.

c. Excavate and remove asbestos-contaminated demolition debris.

d. Conduct a wet-demolition of the Brick Office Building and the Oven Building. Remove all demolition debris as asbestos containing material.

e. Dispose of contaminated debris from all piles and the two unstable structures pursuant to subparagraphs c, and d, above at an EPA-approved offsite disposal facility in accordance with the offsite rule, 42 U.S.C. § 121(d)(3) and 40 CFR § 300.440, and transport all waste materials in accordance with Department of Transportation rules and regulations.

f. Suppress dust during the removal action.

g. Monitor and sample as necessary personal and ambient air during removal activities.

h. If necessary, coordinate with the current owner of the Site property and with the appropriate State and local authorities for implementation of institutional controls where any contamination remains above the action levels.

i. Requirements under the Occupational Safety and Health Act (OSHA) of 1970, 29 U.S.C. § 651 et seq., and under the laws of a State with an approved equivalent worker safety program, as well as other applicable safety and health requirements, will be followed. Federal OSHA requirements include, among other things, Hazardous Materials Operation, 29 C.F.R.

Part 1910, as amended by 54 Fed. Reg. 9317 (March 1989), all OSHA General Industry (29 C.F.R. Part 1910) and Construction (29 C.F.R. Part 1926) standards wherever they are relevant, as well as OSHA record keeping and reporting regulations, and the EPA regulations set forth in 40 CFR. Part 300 relating to the conduct of work at Superfund sites. The Removal Action will meet the specific Federal OSHA requirements for asbestos including 29 CFR § 1910.1001, which applies to all occupational exposures to asbestos in all industries covered by OSHA except as otherwise specified in the Act.

2. Contribution to remedial performance

It is anticipated that no remedial action will take place at the Site. If any remedial action should occur, the completed removal action is consistent with the remedial action as it removes the source of the contamination.

3. Description of alternative technologies

Removal of the asbestos-contaminated debris, including debris from wet-demolition of the structurally unsound buildings with subsequent transport and disposal of this debris at an approved landfill is the most viable option for the piles and structures.

4. Applicable or relevant and appropriate requirements (ARARs)

The proposed removal action will be conducted to eliminate the actual or potential exposure to hazardous substances, pollutants or contaminants pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. S 9601 et seq. in a manner consistent with the National Contingency Plan, 40 CFR Part 300. As per 40 CFR Section 300.415(j), fund-financed removal actions under CERCLA § 104 and § 106 shall, to the extent practicable considering the exigencies of the situation, attain the applicable or relevant and appropriate requirements (ARARS) under Federal environmental law. The following is an analysis of ARARs for this action:

The EPA is basing its removal of the contaminated debris on sample data that show elevated concentrations of asbestos ranging from trace to 40%. Also, sampling data from the Oven Building and Brick Office Building showing levels of asbestos as high as 80%.

Location-specific ARARs - All proposed activities at the Site are compliant with any location-specific ARARs including those regarding Cultural Resources. Based on the Agency's knowledge of the Site, no additional cultural resource work is required.

Action-specific ARARs – The proposed Removal Action, which pertains to the excavation and demolition of asbestos-containing materials, and transportation and off-Site disposal of asbestos, will comply with Federal and State applicable or relevant and appropriate environmental requirements (ARARs) to the extent practicable.

The Renovation and Demolition of buildings containing asbestos are regulated by the EPA under the National Emissions Standards for Hazardous Air Pollutants (NESHAP), 40 CFR Part 61, Supart M which is found under Section 112 of the Clean Air Act (CAA). Asbestos-containing material regulated under the NESHAP is referred to as "regulated asbestos-containing material" (RACM). RACM is defined in § 61.141 of the NESHAP and includes: (1) friable asbestos-containing material; (2) Category

I nonfriable ACM that has become friable; (3) Category I nonfriable ACM that has been or will be sanded, ground, cut, or abraded; or (4) Category II nonfriable ACM that has already been or is likely to become crumbled, pulverized, or reduced to powder. If the coverage threshold for RACM is met or exceeded in a renovation or demolition operation, then all friable ACM in the operation, and in certain situations, nonfriable ACM in the operation, are subject to the NESHAP.

Debris Piles resulting from historic demolition activities on-Site contain Category I nonfriable ACM that has become friable and Category II nonfriable ACM that has become crumbled and pulverized in the demolition activities. Since the debris piles exceed asbestos reporting unit thresholds and contain RACM, removal efforts are subject to 40 CFR Part 61, Subpart M.

The Brick Office building and Oven Building each contain friable and nonfriable asbestos-containing material exceeding the reporting unit thresholds and are subject to 40 CFR Part 61, Subpart M and 40 O.S. § 450, et seq. Abatement of Friable Asbestos Materials Rules OAC 380:50-17-14. However, the two buildings are structurally unsound and in danger of imminent collapse and are specifically subject to 40 CFR Part 61.145 (3).

To-be-considered (TBCs) - In addition to ARARs, other advisories, criteria, or guidance that may be useful in developing the remedy were, as appropriate, identified and considered, but none were identified.

5. Project Schedule

The EPA currently estimates that the total duration of the first phase of removal activities will require approximately four months. It is important to note that previous EPA experience at other asbestos removal sites has shown that delays frequently occur as a result of high wind. The EPA routinely uses water to suppress any dust from migrating away from the excavation areas; however, when high wind conditions are experienced, the EPA errs on the side of caution and will shut down operations until lower wind speeds return.

B. Estimated Costs

Extramural Costs:	
Cleanup Contractor (ERRS) (estimated)	$ 2,448,000
START (estimated)	$ 374,439
Extramural Subtotal	**$ 2,822,439**
Extramural Contingency (20%)	$ 564,488
Prior Emergency Removal	$17,200
TOTAL REMOVAL ACTION COST	**$ 3,404,127**

VII. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

If the actions described in this Action Memorandum are not conducted, there would be a continuing threat to human health. Asbestos will continue to be exposed on the surface of this property. The release of asbestos into the environment has occurred and may be exacerbated by disturbances by local residents, who currently are routinely trespassing on the property. These releases pose a significant

threat to the residents who reside next to the Site as well as students and staff at three schools immediately adjacent to the Site.

VIII. OUTSTANDING POLICY ISSUES

Asbestos removal actions have been conducted by the EPA at other locations around the country. This removal action does not set a precedent but, is considered nationally significant or precedent setting based on the EPA's policy regarding CERCLA actions at asbestos Sites. EPA Region 6 is coordinating with EPA Headquarters. There are no outstanding policy issues related to the proposed removal action at this Site.

IX. ENFORCEMENT

The total cost for this emergency removal action, based on full cost accounting practices that will be eligible for cost recovery, is estimated to be $5,301,310.

(Direct Costs)		(Indirect Costs)	= **Estimated EPA Cost for a Removal Action**
(Direct extramural + Direct intramural)	+	*[(Region-specific Indirect Cost Rate) x (Direct Costs)]*	

$3,404,127+ $ 200,000 +(47.09% ($3,404,127 + $200,000)) = $5,301,310

Direct costs include direct extramural costs and direct intramural costs. Indirect costs are calculated based on an estimated indirect cost rate expressed as a percentage of site-specific direct costs, consistent with the full cost accounting methodology effective October 2, 2002. The estimates do not include pre-judgment interest, do not take into account other enforcement costs, including Department of Justice costs, and may be adjusted during the course of a removal action. The estimates are for illustrative purposes only, and their use is not intended to create any rights for responsible parties. Neither the lack of a total cost estimate nor the deviation of actual total costs from this estimate will affect the United States' right to cost recover.

X. RECOMMENDATION

This Action Memorandum documents the approval of the emergency removal action and emergency exemption to the $2 million and 12 month statutory limitation to be conducted at the Goodrich Asbestos Site, Miami, Ottawa County, Oklahoma, developed in accordance with CERCLA, 42 U.S.C.§ 9601 et seq., and consistent with the NCP, 40 C.F.R. Part 300. This decision is based on the administrative record for the Site.

Conditions at the Site meet the criteria as defined by Section 300.415(b) of the NCP for a removal action and the exemption to both the 12-month and $2 million statutory limitations. The total project ceiling for the Site as approved by the Superfund Division Director is $3,404,127.

APPROVED: _____ DATE: 8/27/19

Wren Stenger, Director
Superfund and Emergency Management Division (SED)

Attachment 1: ATSDR Tox FAQs for Asbestos

ATSDR
AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY

ASBESTOS
CAS # 1332-21-4

Division of Toxicology ToxFAQs™ **September 2001**

This fact sheet answers the most frequently asked health questions (FAQs) about asbestos. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It's important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, individual susceptibility and personal habits, and whether other chemicals are present.

HIGHLIGHTS: Exposure to asbestos usually occurs by breathing contaminated air in workplaces that make or use asbestos. Asbestos is also found in the air of buildings that are being torn down or renovated. Asbestos exposure can cause serious lung problems and cancer. This substance has been found at 83 of the 1,585 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What is asbestos?

Asbestos is the name given to a group of six different fibrous minerals (amosite, chrysotile, crocidolite, and the fibrous varieties of tremolite, actinolite, and anthophyllite) that occur naturally in the environment. Asbestos minerals have separable long fibers that are strong and flexible enough to be spun and woven and are heat resistant. Because of these characteristics, asbestos has been used for a wide range of manufactured goods, mostly in building materials (roofing shingles, ceiling and floor tiles, paper products, and asbestos cement products), friction products (automobile clutch, brake, and transmission parts), heat-resistant fabrics, packaging, gaskets, and coatings. Some vermiculite or talc products products may contain asbestos.

What happens to asbestos when it enters the environment?

Asbestos fibers can enter the air or water from the breakdown of natural deposits and manufactured asbestos products. Asbestos fibers do not evaporate into air or dissolve in water. Small diameter fibers and particles may remain suspended in the air for a long time and be carried long distances by wind or water before settling down. Larger diameter fibers and particles tend to settle more quickly.

Asbestos fibers are not able to move through soil. Asbestos fibers are generally not broken down to other compounds and will remain virtually unchanged over long periods.

How might I be exposed to asbestos?

We are all exposed to low levels of asbestos in the air we breathe. These levels range from 0.00001 to 0.0001 fibers per milliliter of air and generally are highest in cities and industrial areas.

People working in industries that make or use asbestos products or who are involved in asbestos mining may be exposed to high levels of asbestos. People living near these industries may also be exposed to high levels of asbestos in air.

Asbestos fibers may be released into the air by the disturbance of asbestos-containing material during product use, demolition work, building or home maintenance, repair, and remodeling. In general, exposure may occur only when the asbestos-containing material is disturbed in some way to release particles and fibers into the air.

Drinking water may contain asbestos from natural sources or from asbestos-containing cement pipes.

How can asbestos affect my health?

Asbestos mainly affects the lungs and the membrane that surrounds the lungs. Breathing high levels of asbestos fibers for a long time may result in scar-like tissue in the lungs and in the pleural membrane (lining) that surrounds the lung. This disease is called asbestosis and is usually found in workers exposed to asbestos, but not in the general public. People with asbestosis have difficulty breathing, often a cough, and in severe cases heart enlargement. Asbestosis is a serious disease and can eventually lead to disability and death.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES, Public Health Service
Agency for Toxic Substances and Disease Registry

ToxFAQs™ Internet address is http://www.atsdr.cdc.gov/toxfaq.html

Breathing lower levels of asbestos may result in changes called plaques in the pleural membranes. Pleural plaques can occur in workers and sometimes in people living in areas with high environmental levels of asbestos. Effects on breathing from pleural plaques alone are not usually serious, but higher exposure can lead to a thickening of the pleural membrane that may restrict breathing.

How likely is asbestos to cause cancer?

The Department of Health and Human Services (DHHS), the World Health Organization (WHO), and the EPA have determined that asbestos is a human carcinogen.

It is known that breathing asbestos can increase the risk of cancer in people. There are two types of cancer caused by exposure to asbestos: lung cancer and mesothelioma. Mesothelioma is a cancer of the thin lining surrounding the lung (pleural membrane) or abdominal cavity (the peritoneum). Cancer from asbestos does not develop immediately, but shows up after a number of years. Studies of workers also suggest that breathing asbestos can increase chances of getting cancer in other parts of the body (stomach, intestines, esophagus, pancreas, and kidneys), but this is less certain. Early identification and treatment of any cancer can increase an individual's quality of life and survival.

Cigarette smoke and asbestos together significantly increase your chances of getting lung cancer. Therefore, if you have been exposed to asbestos you should stop smoking. This may be the most important action that you can take to improve your health and decrease your risk of cancer.

How can asbestos affect children?

We do not know if exposure to asbestos will result in birth defects or other developmental effects in people. Birth defects have not been observed in animals exposed to asbestos.

It is likely that health effects seen in children exposed to high levels of asbestos will be similar to the effects seen in adults.

How can families reduce the risk of exposure to asbestos?

Materials containing asbestos that are not disturbed or deteriorated do not, in general, pose a health risk and can be left alone. If you suspect that you may be exposed to asbestos in your home, contact your state or local health department or the regional offices of EPA to find out how to test your home and how to locate a company that is trained to remove or contain the fibers.

Is there a medical test to show whether I've been exposed to asbestos?

Low levels of asbestos fibers can be measured in urine, feces, mucus, or lung washings of the general public. Higher than average levels of asbestos fibers in tissue can confirm exposure but not determine whether you will experience any health effects.

A thorough history, physical exam, and diagnostic tests are needed to evaluate asbestos-related disease. Chest x-rays are the best screening tool to identify lung changes resulting from asbestos exposure. Lung function tests and CAT scans also assist in the diagnosis of asbestos-related disease.

Has the federal government made recommendations to protect human health?

In 1989, EPA banned all new uses of asbestos; uses established before this date are still allowed. EPA established regulations that require school systems to inspect for damaged asbestos and to eliminate or reduce the exposure by removing the asbestos or by covering it up. EPA regulates the release of asbestos from factories and during building demolition or renovation to prevent asbestos from getting into the environment.

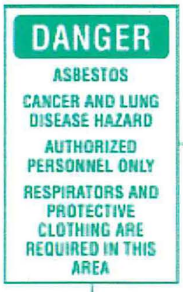
EPA has proposed a concentration limit of 7 million fibers per liter of drinking water for long fibers (lengths greater than or equal to 5 μm). The Occupational Safety and Health Administration has set limits of 100,000 fibers with lengths greater than or equal to 5 μm per cubic meter of workplace air for 8-hour shifts and 40-hour work weeks.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2001. Toxicological Profile for Asbestos. Update. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs™ Internet address is http://www.atsdr.cdc.gov/toxfaq.html. ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

Attachment 2: OSHA Fact Sheet on Asbestos



OSHA FACT Sheet

Asbestos

What is asbestos?

Asbestos is the name given to a group of naturally occurring minerals used in certain products, such as building materials and vehicle brakes, to resist heat and corrosion. Asbestos includes chrysotile, amosite, crocidolite, tremolite asbestos, anthophyllite asbestos, actinolite asbestos, and any of these materials that have been chemically treated and/or altered.

What are the dangers of asbestos exposure to workers?

The inhalation of asbestos fibers by workers can cause serious diseases of the lungs and other organs that may not appear until years after the exposure has occurred. For instance, asbestosis can cause a buildup of scar-like tissue in the lungs and result in loss of lung function that often progresses to disability and death. Asbestos fibers associated with these health risks are too small to be seen with the naked eye, and smokers are at higher risk of developing some asbestos-related diseases.

Are you being exposed to asbestos?

General industry employees may be exposed to asbestos during the manufacture of asbestos-containing products or when performing brake and clutch repairs. In the construction industry, exposure occurs when workers disturb asbestos-containing materials during the renovation or demolition of buildings. Employees in the maritime environment also may be exposed when renovating or demolishing ships constructed with asbestos-containing materials. In addition, custodial workers may be exposed through contact with deteriorating asbestos-containing materials in buildings.

Are there any OSHA standards that cover workers exposed to asbestos?

Yes. The Occupational Safety and Health Administration (OSHA) has the following three standards to protect workers from exposure to asbestos in the workplace:

- 29 *CFR* 1926.1101 covers construction work, including alteration, repair, renovation, and demolition of structures containing asbestos.
- 29 *CFR* 1915.1001 covers asbestos exposure during work in shipyards.
- 29 *CFR* 1910.1001 applies to asbestos exposure in general industry, such as exposure during brake and clutch repair, custodial work, and manufacture of asbestos-containing products.

The standards for the construction and shipyard industries classify the hazards of asbestos work activities and prescribe particular requirements for each classification:

- **Class I** is the most potentially hazardous class of asbestos jobs and involves the removal of thermal system insulation and sprayed-on or troweled-on surfacing asbestos-containing materials or presumed asbestos-containing materials.
- **Class II** includes the removal of other types of asbestos-containing materials that are not thermal system insulation, such as resilient flooring and roofing materials containing asbestos.
- **Class III** focuses on repair and maintenance operations where asbestos-containing or presumed asbestos-containing materials are disturbed.
- **Class IV** pertains to custodial activities where employees clean up asbestos-containing waste and debris.

There are equivalent regulations in states with OSHA-approved state plans.

What are the permissible exposure limits for asbestos?

Employee exposure to asbestos must not exceed 0.1 fiber per cubic centimeter (f/cc) of air, averaged over an 8-hour work shift. Short-term exposure must also be limited to not more than 1 f/cc, averaged over 30 minutes. Rotation of employees to achieve compliance with either permissible exposure limit (PEL) is prohibited.

Are employers required to conduct exposure monitoring?

In construction and shipyard work, unless you are able to demonstrate that employee exposures will be below the PELs (a "negative exposure assessment"), you are generally required to conduct daily monitoring for workers in Class I and II regulated areas. For workers in other operations where exposures are expected to exceed one of the PELs, you must conduct periodic monitoring. In general industry, you must perform initial monitoring for workers who may be exposed above a PEL or above the excursion limit. You must conduct subsequent monitoring at reasonable intervals, and in no case at intervals greater than 6 months for employees exposed above a PEL.

Must employers create regulated areas?

You must create controlled zones known as regulated areas that are designed to protect employees where certain work with asbestos is performed. You must limit access to regulated areas to authorized persons who are wearing appropriate respiratory protection. You must also prohibit eating, smoking, drinking, chewing tobacco or gum, and applying cosmetics in these areas. You must display warning signs at each regulated area. In construction and shipyards, workers must perform Class I, II, and III asbestos work (and all other

Asbestos

operations where asbestos concentrations may exceed a PEL) within regulated areas. In general industry, you must establish regulated areas wherever asbestos concentrations may exceed a PEL.

What compliance methods must employers use to control exposures?

You must control exposures to or below the PELs using engineering controls and work practices to the extent feasible. Where feasible engineering controls and work practices do not ensure worker protection at the exposure limits, you must reduce employee exposures to the lowest levels achievable and then supplement them with respiratory protection to meet the PELs. In construction and shipyards, each work classification has specific control method requirements. In general industry, specific controls are prescribed for brake and clutch repair work. For example, you must prohibit certain practices, such as the use of compressed air, to remove asbestos.

When are employers required to provide respiratory protection for workers?

You must provide and ensure the use of respirators when a PEL is exceeded. In construction and shipyards, you must require workers to use respirators when performing certain work. Generally, the level of exposure determines the type of respirator needed. In addition, the standards specify the type of respirator to be used for certain asbestos work. (See *CFR* 1910.134.) Employees must get respirator training and medical clearance to use respirators.

Are employers required to provide protective clothing for workers?

Yes. For any employee exposed to airborne concentrations of asbestos that exceed a PEL, you must provide and require the use of protective clothing such as coveralls or similar full-body clothing, head coverings, gloves, and foot coverings. You must provide face shields, vented goggles, or other appropriate protective equipment wherever the possibility of eye irritation exists and require workers to wear them.

Must employers provide hygiene facilities?

Yes. You must establish decontamination areas and hygiene practices for employees exposed above a PEL. In addition, employees may not smoke in work areas that might expose them to asbestos.

Do OSHA standards require employers to provide training?

Yes. In construction and shipyards, you must provide training for employees exposed above a PEL and for employees involved in each identified work classification. The specific training requirements depend upon the particular class of work being performed. In general industry, you must provide training to all employees exposed above a PEL. You must also provide asbestos awareness training to employees who perform housekeeping operations covered by the standard. You must place warning labels on all asbestos products, containers, and installed construction materials when feasible.

What are employers required to provide concerning medical examinations?

In construction and shipyards, you must provide medical examinations for workers who, for 30 or more days per year, engage in Class I, II, or III work or experience exposure above a PEL. In general industry, you must provide medical examinations for workers who are exposed above a PEL.

What are the recordkeeping requirements for asbestos exposures?

You must keep accurate records of the following:

- All measurements taken to monitor employee exposure to asbestos—30 years;
- Medical records, including physician's written opinions—duration of the employee's employment plus 30 years; and
- Training records—1 year beyond the last date of employment.

How can you get more information on safety and health?

OSHA has various publications, standards, technical assistance, and compliance tools to help you, and offers extensive assistance through workplace consultation, voluntary protection programs, grants, strategic partnerships, state plans, training, and education. OSHA's *Safety and Health Program Management Guidelines* (*Federal Register* 54:3904-3916, January 26, 1989) detail elements critical to the development of a successful safety and health management system. This and other information are available on OSHA's website.

- For one free copy of OSHA publications, send a self-addressed mailing label to OSHA Publications Office, P.O. Box 37535, Washington, DC 20013-7535; or send a request to our fax at (202) 693-2498, or call us at (202) 693-1888.
- To order OSHA publications online at **www.osha.gov**, go to **Publications** and follow the instructions for ordering.
- To file a complaint by phone, report an emergency, or get OSHA advice, assistance, or products, contact your nearest OSHA office under the "U.S. Department of Labor" listing in your phone book, or call toll-free at **(800) 321-OSHA (6742)**. The teletypewriter (TTY) number is (877) 889-5627.
- To file a complaint online or obtain more information on OSHA federal and state programs, visit OSHA's website.

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Occupational Safety and Health Administration
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